

SEQUENCE LISTING

<110> Urry, Dan

<120> Injectable Implants For Tissue Augmentation and Restoration

<130> BERL-020/04US

<150> US 09/258,723

<151> 1999-02-26

<150> US 60/087155

<151> 1998-05-29

<150> US 60/076297

<151> 1998-02-27

<160> 65

<170> PatentIn version 3.0

<210> 1

<211> 180

<212> DNA

<213> Artificial Sequence

<400> 1

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ttcccgaggag gtgtgccggg tggggttcca ggcgggtgtag cgggtgggtt tccgggcggt 120

gttccgggtg gaggttccggg tggcgtgccg ggcgggtttc caggaagtct tcggatccag 180

<210> 2

<211> 113

<212> DNA

<213> Artificial Sequence

<400> 2

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ggtgtgccgg gtgtaggctt tccgggtttc ggattcccag gcgttggatc cag 113

<210> 3

<211> 33

<212> DNA

<213> Artificial Sequence

<400> 3

taggggtacc ggcgtgtgt gactctccgg gcg 33

<210> 4

<211> 33

<212> DNA

<213> Artificial Sequence

<400> 4

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<210> 5
<211> 111
<212> DNA
<213> Artificial Sequence

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gggtgcccgg gtgtaggcgt tccgggtgtg ggagtcccag gcgttggatc c 111

<210> 6
<211> 345
<212> DNA
<213> Artificial Sequence

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ggtgtgggcg tcccggtgt aggtgttcca ggcgtagggg taccgggtcg tggtagctct 180
ccgggcgttg gtgtaccggg tgttgggtgtg ccgggtgttg gtgttccggg cgtaggcgta 240
ccgggcgtag gcgtgccggg cgtaggcggt ccgggcgtgg gcgtaccggg cgtgggcgtg 300
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<211> 463
<212> DNA
<213> Artificial Sequence

<400> 7
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cgtaccgggc gtaggcgtgc cgggcgtagg cgttccgggc gtgggcgtac cgggcgtggg 120
cgtgccgggt gtgggcgtcc cagggtgtag cgttccgggt gtgggtgtag ctccgggtgt 180
tggcgttgca ccgggcgtag gtgttgctcc gggcgttggc gtggcgccgg gtgttgggtg 240
tgctccgggt gtaggcgttg ctccgggcgt tgggtgtgcc ccagggtgtag gtgtggcacc 300
gggcgttggg gtaccgggtg ttggtgtgcc ggggtgttgg gttccgggcg taggcgtacc 360
gggcgtaggc gtgccgggcg taggcgttcc gggcgtgggc gtaccgggcg tgggcgtgcc 420
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<210> 8
<211> 111
<212> DNA
<213> Artificial Sequence

<400> 8

<400> 13

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1 5 10 15
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20 25 30
Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
35 40 45
Val Pro Gly Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly
50 55 60
Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
65 70 75 80
Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
85 90 95
Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
100 105 110

<210> 14

<211> 148

<212> PRT

<213> Artificial Sequence

<400> 14

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Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
20 25 30
Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
35 40 45
Val Pro Gly Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Val
50 55 60
Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly Val Ala Pro
65 70 75 80
Gly Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly Val
85 90 95
Ala Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
100 105 110
Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
115 120 125
Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
130 135 140
Val Gly Val Pro
145

[illegible]

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Glu Gly Val Pro Gly
1 5 10 15

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
20 25 30

<400> 16

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<210> 17
<211> 5
<212> PRT
<213> Artificial Sequence
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Val Pro Gly Val Gly
1 5

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<210> 18
<211> 1255
<212> PRT
<213> Artificial Sequence
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Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1 5 10 15

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			20					25					30		

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
35 40 45

Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
50						55					60				

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
65 70 75 80

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
85 90 95

Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
			100					105					110		

Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
		115						120					125		
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
	130					135					140				
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
145					150					155					160
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
				165					170					175	
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
			180					185					190		
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
		195					200					205			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
	210					215					220				
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
225					230					235					240
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
				245					250					255	
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
			260					265					270		
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
		275					280					285			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
	290					295					300				
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
305					310					315					320
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
				325					330					335	
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
			340					345					350		
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
		355					360					365			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
	370					375					380				
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
385					390					395					400
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
				405					410					415	
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
			420					425					430		
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly

[illegible]

Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1085						1090					1095			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1100						1105					1110			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1115						1120					1125			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1130						1135					1140			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1145						1150					1155			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1160						1165					1170			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1175						1180					1185			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1190						1195					1200			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1205						1210					1215			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1220						1225					1230			
Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly
1235						1240					1245			
Val	Pro	Gly	Val	Gly	Val	Pro								
1250						1255								

<210> 19
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> VARIANT
 <222> (4)..(4)
 <223> the residue at posiiton 4 is modified to have an electroresponsiv
 e side chai

<400> 19

Val	Pro	Gly	Xaa	Gly
1				5

<210> 20
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<400> 20

Gly Val Gly Val Pro

1085 1090 1095
 1100 1105 1110
 1115 1120 1125
 1130 1135 1140
 1145 1150 1155
 1160 1165 1170
 1175 1180 1185
 1190 1195 1200
 1205 1210 1215
 1220 1225 1230
 1235 1240 1245
 1250 1255

5

<400> 21

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
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Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
35 40 45

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
50 55 60

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
65 70 75 80

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
85 90 95

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
100 105 110

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
115 120 125

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
130 135 140

Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro Gly Gly Ala Pro
145 150 155 160

Gly Arg Gly Asp Ser Pro
165

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<210> 22
<211> 25
<212> PRT
<213> Artificial Sequence
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<400> 22

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1 5 10 15

Val Gly Val Pro Gly Glu Gly Val Pro
20 25

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<210> 23
<211> 100
<212> PRT
<213> Artificial Sequence
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<400> 23

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[illegible]

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<400> 24
ctggatccga agacttcttg gaaaaccgcc cggcacgcc a cccggaactc caccgcgaac      60
accgccccga aaccacccg gtacaccgcc tggaaaccca      100
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<400> 25

Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly
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Val	Gly	Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val
			20					25					30		
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly
		35					40					45			
Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val
	50					55					60				
Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
65					70					75					80
Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	Pro	Gly
				85					90					95	
Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
			100					105					110		

Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly
115 120 125

Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe
130 135 140

Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
145 150 155 160

Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly
165 170 175

Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys
180 185 190

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly
195 200 205

Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val
210 215 220

Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro
225 230 235 240

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly
245 250 255

Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val
260 265 270

Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly Val Gly
275 280 285

Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val
290 295 300

Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro
305 310 315 320

Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly
325 330 335

Val Gly Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val
340 345 350

Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly
355 360 365

Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe
370 375 380

Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
385 390 395 400

Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly
405 410 415

Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys
420 425 430

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly

[illegible]

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gtgtgc 66
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<400> 27
ctggatccaa cgcttgggaa tccgaaaccc ggaaagccta caccgggcac accaacgccc 60
gggaca                                           66
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<210> 28

<211> 6
 <212> PRT
 <213> Artificial Sequence

<400> 28

Gly Arg Gly Asp Ser Pro
 1 5

<210> 29
 <211> 50
 <212> PRT
 <213> Artificial Sequence

<400> 29

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
 1 5 10 15

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
 20 25 30

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
 35 40 45

Val Pro
 50

<210> 30
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<400> 30
 ctggatccag accatgggcg tt 22

<210> 31
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<400> 31
 ggcgttggtg taccgtaagc ttgaattcgg atccag 36

<210> 32
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<400> 32
 gacctaggtc tggtacccgc aa 22

<210> 33
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<400> 33

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ccgcaaccac atggcattcg aacttaagcc taggtc

36

<210> 34
<211> 2003
<212> PRT
<213> Artificial Sequence

<400> 34

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20 25 30
Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
35 40 45
Val Pro Gly Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly
50 55 60
Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
65 70 75 80
Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
85 90 95
Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
100 105 110
Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
115 120 125
Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
130 135 140
Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
145 150 155 160
Pro Gly Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly Val
165 170 175
Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
180 185 190
Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
195 200 205
Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
210 215 220
Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
225 230 235 240
Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
245 250 255
Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
260 265 270

Gly Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly Val Pro
 275 280 285
 Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
 290 295 300
 Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
 305 310 315 320
 Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
 325 330 335
 Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
 340 345 350
 Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
 355 360 365
 Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
 370 375 380
 Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly Val Pro Gly
 385 390 395 400
 Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
 405 410 415
 Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
 420 425 430
 Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
 435 440 445
 Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
 450 455 460
 Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
 465 470 475 480
 Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
 485 490 495
 Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly Val Pro Gly Val
 500 505 510
 Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
 515 520 525
 Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
 530 535 540
 Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
 545 550 555 560
 Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
 565 570 575
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 580 585 590
 Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly

Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
1235						1240					1245			
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val
1250						1255					1260			
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Arg
1265						1270					1275			
Gly	Asp	Ser	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1280						1285					1290			
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1295						1300					1305			
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1310						1315					1320			
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1325						1330					1335			
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1340						1345					1350			
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1355						1360					1365			
Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly
1370						1375					1380			
Val	Gly	Val	Pro	Gly	Arg	Gly	Asp	Ser	Pro	Gly	Val	Gly	Val	Pro
1385						1390					1395			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
1400						1405					1410			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
1415						1420					1425			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
1430						1435					1440			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
1445						1450					1455			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
1460						1465					1470			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro
1475						1480					1485			
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Arg	Gly	Asp	Ser
1490						1495					1500			
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
1505						1510					1515			
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val
1520						1525					1530			
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val

[illegible]

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1850 1855 1860

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1865 1870 1875

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1880 1885 1890

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1895 1900 1905

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1910 1915 1920

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
1925 1930 1935

Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly Val Pro
1940 1945 1950

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
1955 1960 1965

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
1970 1975 1980

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
1985 1990 1995

Gly Val Gly Val Pro
2000

<210> 35
<211> 1085
<212> PRT
<213> Artificial Sequence

<400> 35

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
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Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
20 25 30

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly
35 40 45

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
50 55 60

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro
65 70 75 80

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
85 90 95

Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly Val
100 105 110

Gly Val	Pro Gly Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly	Val Gly
435		440		445
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Val Gly Val
450		455		460
Pro Gly Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
465		470		475
Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	485		490	
Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	500		505	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Lys Gly
	515		520	
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Val Gly Val
	530		535	
Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Lys Gly Val	Pro Gly Val
	545		550	
Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	565		570	
Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Lys Gly Val	Pro Gly Val
	580		585	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly
	595		600	
Val Pro Gly Val Gly Val	Pro Gly Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Val Gly Val
	610		615	
Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	625		630	
Gly Val Gly Val	Pro Gly Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	645		650	
Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	660		665	
Gly Val Pro Gly Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly
	675		680	
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Val Gly Val
	690		695	
Pro Gly Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	705		710	
Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	725		730	
Lys Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
	740		745	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Lys Gly

Val Pro
1085

<210> 36
<211> 635
<212> PRT
<213> Artificial Sequence

<400> 36

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly
1 5 10 15

Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val
20 25 30

Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly Val Gly
35 40 45

Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val
50 55 60

Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro
65 70 75 80

Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly
85 90 95

Val Gly Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val
100 105 110

Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly
115 120 125

Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe
130 135 140

Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
145 150 155 160

Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly
165 170 175

Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys
180 185 190

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly
195 200 205

Phe Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val
210 215 220

Pro Gly Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro
225 230 235 240

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Lys Gly Val Pro Gly
245 250 255

Val Gly Val Pro Gly Val Gly Phe Pro Gly Phe Gly Phe Pro Gly Val
260 265 270

Protein Data Bank

Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	275	280	285
Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	290	295	300
Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	305	310	315
Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	Pro	Gly	325	330	335
Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	340	345	350
Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	355	360	365
Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Phe	370	375	380
Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	385	390	395
Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	405	410	415
Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	420	425	430
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	435	440	445
Phe	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	450	455	460
Pro	Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	465	470	475
Gly	Val	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	485	490	495
Val	Gly	Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	500	505	510
Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	515	520	525
Val	Pro	Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	530	535	540
Pro	Gly	Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	545	550	555
Gly	Val	Gly	Phe	Pro	Gly	Phe	Gly	Phe	Pro	Gly	Val	Gly	Val	Pro	Gly	565	570	575
Val	Gly	Val	Pro	Gly	Lys	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Val	580	585	590

Gly Phe Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro Gly Val Gly
595 600 605

Val Pro Gly Lys Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Phe
610 615 620

Pro Gly Phe Gly Phe Pro Gly Val Gly Val Pro
625 630 635

<210> 37

<211> 782

<212> PRT

<213> Artificial Sequence

<400> 37

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
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Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
20 25 30

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
35 40 45

Val Pro Gly Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly
50 55 60

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
65 70 75 80

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
85 90 95

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
100 105 110

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
115 120 125

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
130 135 140

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
145 150 155 160

Pro Gly Val Gly Val Pro Gly Arg Gly Asp Ser Pro Gly Val Gly Val
165 170 175

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
180 185 190

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
195 200 205

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
210 215 220

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
225 230 235 240

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Val | Gly | Val | Pro | Gly | Arg | Gly | Asp | Ser | Pro | Gly | Val | Gly | Val | Pro |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly |
| | | 290 | | | | 295 | | | | | 300 | | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly |
| | | | 325 | | | | | 330 | | | | | 335 | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly |
| | | 370 | | | | 375 | | | | | 380 | | | | |
| Val | Gly | Val | Pro | Gly | Arg | Gly | Asp | Ser | Pro | Gly | Val | Gly | Val | Pro | Gly |
| 385 | | | | | 390 | | | | | 395 | | | | 400 | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly |
| 465 | | | | | 470 | | | | | 475 | | | | 480 | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val |
| | | | 485 | | | | | | 490 | | | | | 495 | |
| Gly | Val | Pro | Gly | Arg | Gly | Asp | Ser | Pro | Gly | Val | Gly | Val | Pro | Gly | Val |
| | | | 500 | | | | 505 | | | | | | 510 | | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val |
| | | 530 | | | | 535 | | | | | 540 | | | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly |

[illegible]

| 565 | | | | | | 570 | | | | | | 575 | | | | | |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val |
| | | | 580 | | | | | | | 585 | | | | | | 590 | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | | 595 | | | | | 600 | | | | | | 605 | | | | |
| Val | Pro | Gly | Arg | Gly | Asp | Ser | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | 610 | | | | | 615 | | | | | | | 620 | | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | 625 | | | | 630 | | | | | 635 | | | | | | 640 | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | | |
| | | | | 645 | | | | | 650 | | | | | | 655 | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| | | | 660 | | | | | 665 | | | | | 670 | | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | | |
| | | 675 | | | | | 680 | | | | | | 685 | | | | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | 690 | | | | | | 695 | | | | 700 | | | | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | 705 | | | | 710 | | | | | 715 | | | | | | 720 | |
| Pro | Gly | Arg | Gly | Asp | Ser | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | | | | 725 | | | | | | 730 | | | | | 735 | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | | |
| | | | | 740 | | | | 745 | | | | | 750 | | | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| | | 755 | | | | | 760 | | | | 765 | | | | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | | | | |
| | 770 | | | | 775 | | | | | 780 | | | | | | | |
| <210> 38 | | | | | | | | | | | | | | | | | |
| <211> 745 | | | | | | | | | | | | | | | | | |
| <212> PRT | | | | | | | | | | | | | | | | | |
| <213> Artificial Sequence | | | | | | | | | | | | | | | | | |
| <400> 38 | | | | | | | | | | | | | | | | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Val | Pro | Gly | Val | Gly | Val | Ala | Pro | Gly | Val | Gly | Val | Ala | Pro | Gly | Val | | |
| | 50 | | | | | 55 | | | | | | 60 | | | | | |
| Gly | Val | Ala | Pro | Gly | Val | Gly | Val | Ala | Pro | Gly | Val | Gly | Val | Ala | Pro | | |

| 580 | | | | | | 585 | | | | | | 590 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | | 595 | | | | | 600 | | | | | 605 | | | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | 610 | | | | | 615 | | | | | 620 | | | | | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | | |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 | | |
| Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| | | | | 645 | | | | | 650 | | | | | 655 | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | | |
| | | | 660 | | | | | 665 | | | | | 670 | | | | |
| Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | | 675 | | | | 680 | | | | | | 685 | | | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | 690 | | | | | 695 | | | | | 700 | | | | | | |
| Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | | |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| | | | | 725 | | | | | 730 | | | | | 735 | | | |
| Glu | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | | |
| | | | 740 | | | | | 745 | | | | | 750 | | | | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | | |
| | | 755 | | | | | 760 | | | | | 765 | | | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | 770 | | | | | 775 | | | | | 780 | | | | | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | | |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 | | |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| | | | | 805 | | | | | 810 | | | | | 815 | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | | |
| | | | 820 | | | | | 825 | | | | | 830 | | | | |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | | |
| | | 835 | | | | | 840 | | | | | 845 | | | | | |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | Gly | Val | | |
| | 850 | | | | | 855 | | | | | 860 | | | | | | |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | | |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 | | |
| Gly | Val | Gly | Val | Pro | Gly | Glu | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | | |
| | | | | 885 | | | | | 890 | | | | | 895 | | | |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | | |
| | | | 900 | | | | | 905 | | | | | 910 | | | | |

Gly Val Pro Gly Glu Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
915 920 925

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
930 935 940

Pro Gly Glu Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
945 950 955 960

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
965 970 975

Glu Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
980 985 990

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Glu Gly
995 1000 1005

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
1010 1015 1020

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Glu Gly
1025 1030 1035

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
1040 1045 1050

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Glu Gly
1055 1060 1065

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
1070 1075 1080

Val Pro
1085

<210> 40
<211> 605
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<213> Artificial Sequence

<400> 40

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
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Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val
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Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly
35 40 45

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val
50 55 60

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro
65 70 75 80

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly
85 90 95

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | 100 | 105 | 110 |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | 115 | 120 | 125 |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | 130 | 135 | 140 |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | 145 | 150 | 155 |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | 165 | 170 | 175 |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | 180 | 185 | 190 |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | 195 | 200 | 205 |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | 210 | 215 | 220 |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | 225 | 230 | 235 |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | 245 | 250 | 255 |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | 260 | 265 | 270 |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | 275 | 280 | 285 |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | 290 | 295 | 300 |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | 305 | 310 | 315 |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | 325 | 330 | 335 |
| Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | 340 | 345 | 350 |
| Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | 355 | 360 | 365 |
| Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | 370 | 375 | 380 |
| Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | 385 | 390 | 395 |
| Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | Val | Gly | Val | Pro | Gly | 405 | 410 | 415 |

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Gly Lys Gly Val Pro
1 5

<210> 44

<211> 5

<212> PRT

<213> Artificial Sequence

<400> 44

Gly Val Gly Phe Pro
1 5

<210> 45

<211> 5

<212> PRT

<213> Artificial Sequence

<400> 45

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1 5

<210> 46

<211> 6

<212> PRT

<213> Artificial Sequence

<400> 46

Gly Arg Gly Asp Ser Pro
1 5

<210> 47

<211> 6

<212> PRT

<213> Artificial Sequence

<400> 47

Gly Val Gly Val Ala Pro
1 5

<210> 48

<211> 5

<212> PRT

<213> Artificial Sequence

<400> 48

Gly Glu Gly Val Pro
1 5

<210> 49

<211> 5

<212> PRT

<213> Artificial Sequence

<400> 49

| | | | |
|---------------------|---------------------|---------------------|---------------------|
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| 545 | 550 | 555 | 560 |
| Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly |
| | 565 | 570 | 575 |
| Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val |
| | 580 | 585 | 590 |
| Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly |
| | 595 | 600 | 605 |
| Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile |
| | 610 | 615 | 620 |
| Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro |
| 625 | 630 | 635 | 640 |
| Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly |
| | 645 | 650 | 655 |
| Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val |
| | 660 | 665 | 670 |
| Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly |
| | 675 | 680 | 685 |
| Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile |
| | 690 | 695 | 700 |
| Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro |
| 705 | 710 | 715 | 720 |
| Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly |
| | 725 | 730 | 735 |
| Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val |
| | 740 | 745 | 750 |
| Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly |
| | 755 | 760 | 765 |
| Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile |
| | 770 | 775 | 780 |
| Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro |
| 785 | 790 | 795 | 800 |
| Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly |
| | 805 | 810 | 815 |
| Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val |
| | 820 | 825 | 830 |
| Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly |
| | 835 | 840 | 845 |
| Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile | Pro Gly Val Gly Ile |
| | 850 | 855 | 860 |

Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro
 865 870 875 880
 Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly
 885 890 895
 Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val
 900 905 910
 Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 915 920 925
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile
 930 935 940
 Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro
 945 950 955 960
 Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly
 965 970 975
 Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val
 980 985 990
 Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 995 1000 1005
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1010 1015 1020
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1025 1030 1035
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1040 1045 1050
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1055 1060 1065
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1070 1075 1080
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1085 1090 1095
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1100 1105 1110
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1115 1120 1125
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1130 1135 1140
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1145 1150 1155
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly
 1160 1165 1170
 Ile Pro Gly Val Gly Ile Pro Gly Val Gly Ile Pro Gly Val Gly

